

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A plasma processing method using a process gas supplied into a process chamber to generate plasma from the process gas and process a substrate placed in said process chamber by means of the plasma, wherein

said substrate includes stacked films of at least two types to be etched by the plasma, and, according to any of said films that is to be etched, a change is made in said process gas in a plasma generation period.

2. (Original) The plasma processing method according to claim 1, wherein in the plasma generation period, a change is made in a bias voltage applied to said substrate together with the change made in said process gas.

3. (Original) The plasma processing method according to claim 1, wherein in the plasma generation period, a change is made in a plasma generating condition for stably maintaining generation of the plasma, together with the change made in said process gas.

4. (Original) The plasma processing method according to claim 3, wherein the change in said plasma generating condition for stably maintaining generation of the plasma is made simultaneously with or prior to the change made in said process gas.

5. (Original) The plasma processing method according to claim 3, wherein said plasma generating condition for stably maintaining generation of the plasma is pressure of the process gas within said process chamber.

6. (Original) The plasma processing method according to claim 3, wherein said plasma generating condition for stably maintaining generation of the plasma is output of a plasma exciting power source.

7. (New) A plasma processing method using a process gas supplied into a process chamber to generate plasma from the process gas and process a substrate placed in said process chamber by means of the plasma, wherein

said substrate includes stacked films of at least one Ti-based film and at least one film other than a Al-based film to be etched by the plasma, and, according to any of said films that is to be etched, a change is made in said process gas in a plasma generation period.

8. (New) The plasma processing method according to claim 7, wherein at least one film other than an Al-based film is an Ti-based film.

9. (New) The plasma processing method according to claim 7, wherein the process gas includes a mixture of Cl_2 and Ar.

10. (New) A plasma processing method using a process gas supplied into a process chamber to generate plasma from the process gas and process a substrate placed in said process chamber by means of the plasma, wherein

said substrate includes stacked films of at least two types to be etched by the plasma, and, according to any of said films that is to be etched, a change is made in said process gas in a plasma generation period and

wherein, in the plasma generation period, a change is made in a bias voltage applied to said substrate together with the change made in said process gas.

11. (New) A plasma processing method using a process gas supplied into a process chamber to generate plasma from the process gas and process a substrate placed in said process chamber by means of the plasma, wherein

said substrate includes stacked films of at least two types to be etched by the plasma, and, according to any of said films that is to be etched, a change is made in said process gas in a plasma generation period and

wherein, in the plasma generation period, a change is made in a plasma generating condition for stably maintaining generation of the plasma, together with the change made in said process gas.

12. (New) The plasma processing method according to claim 11, wherein the change in said plasma generating condition for stably maintaining generation of the plasma is made simultaneously with or prior to the change made in said process gas.

13. (New) The plasma processing method according to claim 11, wherein said plasma generating condition for stably maintaining generation of the plasma is pressure of the process gas within said process chamber.

14. (New) The plasma processing method according to claim 11, wherein said plasma generating condition for stably maintaining generation of the plasma is output of a plasma exciting power source.

15. (New) A plasma processing method comprising the steps of:
placing in a process chamber a substrate to be processed that has stacked films;
performing first etching with plasma on said stacked films by supplying a first process gas into said process chamber;
completing said first etching without extinguishing said plasma; and
performing second etching with plasma on said stacked films by supplying a second process gas different from said first process gas into said process chamber, wherein
said plasma is maintained without being extinguished until said second etching is started.

16. (New) A method of manufacturing a semiconductor device by the plasma processing method according to claim 15, wherein said substrate to be processed is a semiconductor substrate and said stacked films of said semiconductor substrate are etched by said plasma processing method.

17. (New) A method of manufacturing a liquid-crystal display device by the plasma processing method according to claim 15, wherein said substrate to be processed is a substrate of the liquid-crystal display device and said stacked films of said substrate of the liquid-crystal display device are etched by said plasma processing method.